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ous impediment in the minds of thoughtful men, — not because of the temporary set of the tide towards centralization, but because our fathers' faith in the people has become sight to us. We have believed that the real interest of each man and each section of the country was the interest of all and of every part, and that the people generally were enlightened enough to perceive this; and acting upon this belief, we have found it true. We do not need, therefore, to substitute for this *consensus* an arrangement that presupposes it to be false.

Many other suggestions of obvious importance are made by our author, all looking to the same end of a comparatively small body of uniformly disciplined militia, with a large latent force to fall back upon. Among these suggestions is that of the general introduction of elementary drill into schools, a measure commended by independent advantages, and to which we hear of no valid objection. He is opposed to State military academies, as not only uneconomical, but as tending to promote sectional feeling and military crotchets. These and other points we do not undertake to discuss. Whether the plan proposed is in all its details perfect, or how nearly perfect, it is not our province to say. But it seems to us clear that the main principle is sound, and worthy of general attention. Probably this is all that our author would claim.

11. — *The Origin of Human Races and the Antiquity of Man deduced from the Theory of "Natural Selection."* By ALFRED R. WALLACE. In the *Anthropological Review*. May, 1864.

MR. WALLACE, in this very well-written essay, makes an important contribution towards the clearing up of the great controversy of the Monogenists and the Polygenists. The firmest argument of those who advocate the original diversity of mankind has been that everywhere in *history* the evidence of the permanence of human types meets us. The differences that we can positively trace to variation are always most insignificant in amount compared with the extreme differences that exist, and that seem to have existed, side by side, perhaps in the same country, as far back as our evidence reaches. The monogenist "cannot show in a single case that at any former epoch the well-marked varieties of mankind approximated more closely than they do at the present day." Now this, though but negative evidence, still weighs heavily against the advocate of unity. After listening to his general arguments in favor of variation, the polygenist can always ask: "Why then do we never seize variation in the act? Why need this

divergence of types of which you speak have taken place wholly in the dark background of pre-historical times, so that we only know it by its results? Will you pretend that the causes of variation are no longer active?" To such questions as these, the monogenist can make no reply, so that the problem still remains an unsolved one. Mr. Wallace, however, thinks that Darwin's theory of Natural Selection supplies an answer to them, and shows that in mankind the causes of variation *are* no longer active, by pointing out that any further physical change must be checked as soon as certain conditions are fulfilled. These conditions are given when man's affections and intellect are sufficiently developed to make of him a truly social, instead of a solitary or a merely gregarious being.

Among the brutes, the individual is self-dependent and isolated. If through any cause he finds himself out of harmony with the medium which he inhabits, he must almost inevitably perish, and those only of his relations who are better fitted for their circumstances than he will survive. But their superior gifts are of no assistance to him. He is thrown entirely upon his own personal resources. If, being an herbivorous animal, he is a little sick, and has not fed well for a day or two, and the herd is then pursued by a beast of prey, our poor invalid inevitably falls a victim. So in a carnivorous animal, the least deficiency of vigor prevents its capturing food, and it soon dies of starvation. There is, as a general rule, no mutual assistance between adult brutes which enables them to tide over a period of sickness. Neither is there any division of labor; each must fulfil *all* the conditions of its existence; and therefore Natural Selection keeps all up to a pretty uniform standard. In this way, if circumstances require it, the features of the race as a whole may come to change in a comparatively short space of time. The stock will now be represented entirely by the descendants of the more fortunate individuals, and will have inherited the peculiarities to which *they* owed their success.

"But in man, as we now behold him, this is different. He is social and sympathetic." All the members of a community profit by the gifts of any one member, and the deficiencies of any one member may be made up to him from the common wealth. "In the rudest tribes the sick are assisted at least with food; less robust health and vigor than the average does not entail death. Neither does the want of perfect limbs or other organs produce the same effects as among animals. Some division of labor takes place; the swiftest hunt, the less active catch fish or gather fruits; food is to some extent exchanged or divided. The action of natural selection [on the physical man] is therefore checked; the weaker, the dwarfish, those of less active limbs or less

piercing eyesight, do not suffer the extreme penalty which falls upon animals so defective."

"Again, when any slow changes of physical geography or of climate render it necessary for an animal to alter its food, its clothing, or its weapons, it can only do so by a corresponding change in its own bodily structure and internal organization." But man, on the contrary, adapts himself to his new circumstances, for the most part by his intellect alone. He makes himself a different dress or habitation, new arms, and tools; "he plants the seed of his most agreeable food, and thus procures a supply independent of the accidents of varying seasons or natural extinction; he domesticates animals which serve him either to capture food or for food itself"; he has the use of fire; and is thus enabled "with an unchanged body still to keep in harmony with the changing universe." Natural Selection, then, in its action upon man, singles out for preservation those communities whose social qualities are the most complete, those whose intellectual superiority enables them to be most independent of the external world. The physical part of him is left immutable, and his mental and moral advance is secured.

Such is Mr. Wallace's theory. It certainly seems most reasonable, indeed obvious; so that in this case, as in the case of Darwin's original law, what most astonishes the reader is the fact that the discovery was made so late. Why may there not now be lying on the surface of things, and only waiting for an eye to see it, some principle as fertile as Natural Selection, or more so, to make up for its insufficiency (if insufficiency there be) in accounting for all organic change?

"These considerations," says Mr. Wallace, "enable us to place the origin of man at a much more remote geological epoch than has yet been thought possible. He may even have lived in the eocene or miocene period, when not a single mammal possessed the form of any living species. . . . During the long periods in which other animals have been undergoing modification in their whole structure to such an amount as to constitute distinct genera and families, man's body will have remained generically, or even specifically, the same, while his head and brain alone will have undergone modification equal to theirs. We can thus understand how it is that, judging from the head and brain, Professor Owen places man in a distinct sub-class of Mammalia, while as regards the rest of his body there is the closest anatomical resemblance to that of the anthropoid apes. . . . The present theory fully recognizes and accounts for these facts; and we may perhaps claim as corroborative of its truth, that it neither requires us to depreciate the intellectual chasm which separates man from the apes, nor refuses full recognition of the striking resemblances to them which exist in other parts of his structure."